

APPENDIX A- Heparanase Sequence Homology Data

	10	20	30	40	50	60
mouse	-MLR-----	LLLLWLWG	PGLGAL	AQGA	PAGTAPT	DDVDLEFYTKRPLRSVSPSFLSIT
rat	-MLRP-----	LLLLWLWG	RRLRALT	QGT	PAGTAPT	KDVDLEFYTKRFLQSVSPSFLSIT
human	MLLRSKPALPP	MLMLLLG	PGLG	PLSPGAL	PRPAQAQ	DDVDLDFFTQEPHLVSPSFLSVT
chicken	-----	MLVLLLVLL	LAVPP-----	RR-TAEL	QLGLREPI	GAVSPAFLSLT
		:	*:*	:*:*:*:*
	70	80	90	100	110	120
mouse	IDASLATDP	PRFLTFLG	SPRLRAL	ARGLS	PAYLRF	GGTKTDFLI
rat	IDASLATDP	PRFLTFLG	SPRLRAL	ARGLS	PAYLRF	GGTKTDFLI
human	IDANLATDP	PRFILLG	SPKLR	TLARGL	PAYLRF	GGTKTDFLI
chicken	LDASLARD	PRFVALL	RHPKL	HLTLAS	GSPGFL	RFGGTSTDFLI
	:**	**	***:	*:	**	***:***:*
	130	140	150	160	170	180
mouse	QVNHDIR	SEPVSAA	VLRLK	LQVEW	PFQELLL	REQYQKEFKN
rat	QDNNDIC	GSERVS	ADVLRL	KQMEW	PFQELLL	REQYQKEFKN
human	QVNQDICK	YGSIPPD	VEEKL	RLEW	PYQELLL	REHYQKFKN
chicken	QAK-DVCE	AWPSFA	VPKLLT	QWPLQ	EKLLAEH	SWKKHKN
	*	:	*	*	*	*
	190	200	210	220	230	240
mouse	GLDLIF	GLNALL	RTPDL	RWNSS	NAQLLL	DYCSSK
rat	RLDLIF	GLNALL	RTPDL	RWNSS	NAQLLL	DYCSSK
human	GLDLIF	GLNALL	RTPDL	RWNSS	NAQLLL	DYCSSK
chicken	GFRLVF	GLNALL	RRLAGL	QWDSS	NAQLLL	DYCSSK
	:	*	*	*	*	*
	250	260	270	280	290	300
mouse	QLGEDF	VELHKL	LQRS-A	FQNAK	LYGPDIG	QPRGKT
rat	QLGEDF	VELHKL	LQRS-A	FQNAK	LYGPDIG	QPRGKT
human	QLGEDY	IQHLKL	LRS-T	FKNAK	LYGPDVG	QPRKTA
chicken	QLGRDF	VHLRQL	LSQHPL	YRHAEL	YGLDVGC	QPRKHT
	***	*	*	*	*	*
	310	320	330	340	350	360
mouse	LNGRIAT	KEDEF	LSSDAL	DTFIL	SVQKIL	KVTKEIT
rat	LNGRVAT	KEDEF	LSSDVL	DTFIL	SVQKIL	KVTKEIT
human	LNGRTAT	REDFLN	PDVLDI	FIS	SVQKVF	QVVEST
chicken	VNGRSAT	REDFLS	PEVLD	SFATAI	HDLV	GIVEAT
	:	*	*	*	*	*
	370	380	390	400	410	420
mouse	AAGFMW	LDKLGL	SAQMGI	EVVMR	QVFFG	AGNYHL
rat	AAGFMW	LDKLGL	SAQMGI	EVVMR	QVFFG	AGNYHL
human	AAGFMW	LDKLGL	SARMGI	EVVMR	QVFFG	AGNYHL
chicken	VAGFMW	LDKLGL	AARRGI	DVVMR	QVSFG	AGSYHL
	*	*	*	*	*	*
	430	440	450	460	470	480
mouse	LSRVKGP	DRSKLR	VYLHCT	NVYHP	RYQEGD	LTLYVL
rat	MSRVKGP	DRSKLR	VYLHCT	NVYHP	RYQEGD	LTLYVL
human	MASVQGS	KRRKLR	VYLHCT	NTDN	PRYQEG	DLTYAI
chicken	QASVEQA	DARRPR	VYLHCT	NPRL	PKYREG	DVTLFAL
	:	*	*	*	*	*
	490	500	510	520	530	540
mouse	LKPSGPD	GLLSKS	VQLNGQ	ILKMV	DEQTL	PALTEK
rat	LKPFSGD	GLLSKS	VQLNGQ	ILKMV	DEQTL	PALTEK
human	LRPLGPH	GLLSKS	VQLNGL	TLKMV	DDQTL	PLPMEK
chicken	LLPHGKD	SILSREV	QLNGRL	LQMV	DDQTL	PALHEM
	*	*	*	*	*	*
mouse	AACI					
rat	AACI					
human	AACI					

chicken IACI

Multiple alignment of heparanase from Human, Rat, Mouse and chicken generated by Clustal W. Active site residues are bolded and putative heparin binding sites are boxed.